

## TAXONOMY OF *DENISONIA PUNCTATA* AND *DENISONIA FASCIATA* (SERPENTES: ELAPIDAE)

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### ABSTRACT

The two species of *Denisonia* (*sensu stricto*) in Western Australia, namely *Denisonia punctata* Boulenger and *D. fasciata* Rosén, are described and their distribution given.

### INTRODUCTION

Until 1960 most students followed Boulenger (1896) in placing all Australian elapid snakes with smooth scales and undivided subcaudals (excluding *Rhinoplocephalus*, *Brachyaspis* and *Notechis*) in *Denisonia*. Worrell (1961a, 1961b and 1963) used dental, cranial and other morphological characters to describe the genera *Drepanodontis*, *Drysdalia*, *Unechis*, *Suta*, *Parasuta*, *Cryptophis* and *Austrelaps*, restricting *Denisonia* to four species: *maculata* (Steindachner) 1867, *punctata* Boulenger 1896, *devisi* Waite & Longman 1920, and *fasciata* Rosén 1905.

This paper describes the two species of *Denisonia* (*sensu stricto*) which occur in Western Australia.

The following descriptions are based on material from the Western Australian Museum, Northern Territory Museums and Art Galleries, Australian Museum, South Australian Museum, National Museum of Victoria and Queensland Museum. Registered numbers of these specimens are prefixed with WAM, NTM, AM, SAM, NMV and QM respectively.

### SPECIES

#### *Denisonia punctata* Boulenger, 1896

#### *Diagnosis*

Distinguished from other *Denisonia* by having 15, rather than 17 rows of scales at midbody.

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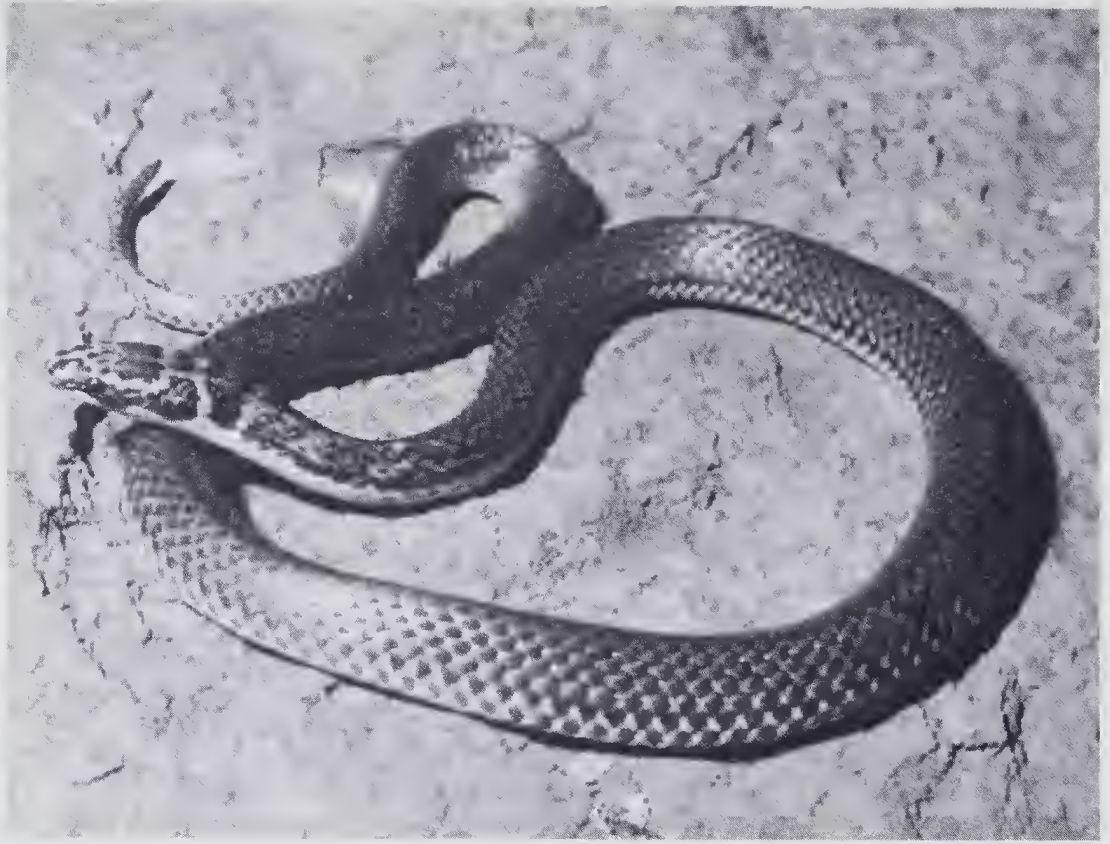


Plate 1: Photograph of specimen of *Denisonia punctata* from Coongan homestead, Western Australia.

### *Description*

A small, moderately slender snake up to 523 mm (465 + 58). Tail 9.6-16.2% of SVL (N 32, mean 13.0). Head depressed; no canthus rostralis. Rostral about twice as wide as high, barely penetrating between internasals. Nasal entire, usually in contact with single preocular (84% of specimens). Frontal from slightly longer than wide to 1.3 times as long as wide and 1.5 to 3 times as wide as supraocular. Two subequal postoculars. Two anterior temporals, lower usually separated from postoculars (84% of specimens) and penetrating deeply between the fifth and sixth upper labial (touching lip both sides of one specimen). Two posterior temporals. Six upper labials, first smallest, last largest, third and fourth entering orbit. Usually 7 (rarely 6 or 8) lower labials, first 3, rarely 4, in contact with anterior chin shields.

Dorsals smooth, in 15 rows at midbody. Ventrals: 146-183 (N 69, mean 160.9). Anal entire. Subcaudals single, 23-42 (N 69, mean 31.5). Ventrals plus subcaudals: 174-213 (N 69, mean 191.7). Snout-vent length (mm): 125-523 (N 52, mean 323.2).

Ground colour pale buff, anterior part of each scale with a reddish brown smudge which can be very small or almost cover whole of scale. First and second rows of dorsals usually more heavily pigmented, forming zig-zag pattern on flanks, especially anteriorly. Vertebral stripe sometimes formed anteriorly by darkening of edges of scales in vertebral series. (One specimen had a series of dark blotches roughly aligned with vertebral column.) Most consistent of head markings are: dark streak from nasal, through lore, under eye to temporals; spot on rostral; spot on each of internasal-prefrontal sutures; spot on posterior of each supraocular; streak on periphery of each parietal, and a pair of nuchal blotches.

### *Variation*

Considering its wide range this species shows surprisingly little variation. The average sum of ventrals plus subcaudals is highest in the Kimberley (195.7) and lowest in Queensland (182). The isolated population in the North-west Division of Western Australia averages 193.4. Two specimens had the nasal in contact with the preocular on one side but not the other.

### *Distribution*

The population in the North-west Division of Western Australia from the Gascoyne River north to the De Grey River and east to Mount Newman is isolated from the Kimberley population which extends through the Northern Territory between about latitudes 14° and 23° south and into Queensland as far east as Longreach (see map). Type locality: Port Walcott, W.A.

### *Remarks*

Cogger (1975, Fig. 165) and Gow (1975, Pl. 62) illustrate this species in colour.

The stomachs of three specimens were examined. One contained two *Diporiphora*, one a *Typhlina nigroterminata* and one a *Typhlina* sp. Another specimen was ingesting an *Amphibolurus isolepis*.

### *Material examined*

Kimberley Division, (W.A.): WAM R53725 (King Edward River at 15°33'S, 126°09'E); AM R14935, NMV D8600 (Forrest River Mission); WAM R23810 (Kununurra); WAM R44824-29 (Lake Argyle); WAM R51644 (near Windjana Gorge); WAM R12957, 20347-48, 28094 (Derby); WAM R19989, 20356 (presumably Derby); WAM R34267 (5 km S of Derby); WAM R20355 (7 km E of Derby); SAM R3148 (junction of Fitzroy and Margaret Rivers); WAM R13959 (Fitzroy Crossing); WAM R44327 (Coulomb Point); WAM R32085 (Mt Anderson); WAM R26046 (Christmas Creek); WAM R32148 (St George Range, 18°39'S, 125°17'E).

North-west Division, (W.A.): WAM R11469 (Muccan); WAM R17080 (Boodarie); WAM 59711 (Coongan H.S.); WAM R29119-20 (Roebourne); WAM R21988, 41426 (Mardie); WAM R25196 (Mt Newman); WAM R34510 (Woodstock); WAM R36682 (White Springs, 112 km N of Wittenoom); WAM R12307 (Nullagine); WAM R10855 (Hooley Stn); WAM R5107 (De Grey Stn); NMV D5381 (Minilya Stn).

Eastern Division, (W.A.): R64705, 67567 (Balgo).

Northern Territory: NMV D8723, 10084 (Roper River Mission); NTM R2247 (179 km NW of Katherine); NTM R0219, 2274 (Katherine); NTM 2254 (5 km W of Katherine); NTM R0827 (25 km W of Katherine); NTM R0032, 0100, WAM R47685 (King River W of Katherine); NTM R1863 (13 km N of Larrimah); AM R55495 (80 km S of Borroloola); NTM R2340 (Victoria River Downs); NMV D8938, WAM R21510-12 (Tennant Creek); AM R51949 (Barrow Creek); AM R51950 (29 km S of Barrow Creek); SAM R14042 (35 km S of Barrow Creek); NTM R0446 (25 km N of Tea Tree); SAM R8168 (Yuendumu); NTM R1507-08 (2 km W of Rabbit Flat); NTM R1510 (13 km W of Rabbit Flat); NMV D7748 (Haasts Bluff).

Queensland: SAM R5754, 9364, QM J10325-26 (Doomagee Mission); NTM R1155, AM R46040 (Mt Isa); AM R49088 (Mt Isa District); QM J27516 (16 km W of Longreach).

### *Denisonia fasciata* Rosén, 1905

#### *Diagnosis*

Distinguished from *D. punctata* by having 17, rather than 15 rows of scales at midbody, and from *D. devisi* and *D. maculata* of eastern Australia by having unbarred labials.

#### *Description*

A small, fairly thick-set snake up to 615 mm (542 + 73). Tail 9.0-15.5% of SVL (N 66, mean 11.7). Head depressed. No canthus rostralis.

Rostral about twice as wide as high, barely penetrating between internasals. Nasal entire, usually in contact with preocular (in 73% of specimens). Frontal slightly longer than to twice as long as wide and 1.5 to twice as wide as supraocular. Two subequal postoculars. Two anterior temporals, lower usually separated from postocular (61% of specimens) and penetrating deeply between fifth and sixth upper labials. Two posterior temporals. Six upper labials, first smallest, last largest, third and fourth entering orbit. Usually 7 (rarely 8) lower labials, first 3 or 4 in contact with anterior chin shields.

Dorsals smooth, in 17 (rarely 19) rows at midbody. Ventrals 144-182 (N 81, mean 160.2). Anal entire. Subcaudals single, 20-38 (N 86, mean 27.8).

Ventrals plus subcaudals: 177-220 (N 81, mean 187.1). Snout-vent length (mm): 147-542 (N 66, mean 321.4).

Ground colour of back buff with many ragged-edged reddish brown bands which are sometimes broken medially or on flanks to form blotches. Belly immaculate (sometimes a few dark streaks on chin shields). Head pale with a dark brown streak from rostral through eye to temporals. Head shields variably edged or blotched dark brown.



Plate 2: Photograph of specimen of *Denisonia fasciata* from Dairy Creek homestead.

### *Variation*

One specimen had 19 rows of scales at midbody. Seven specimens had the nasal in contact with preocular on one side but not the other.

### *Distribution*

Widely distributed through the North-west Division, the Eastern Division and drier parts of the South-west Division from Whim Creek south to Bending and inland to the Rudall River, Weld Spring and Winduldarra Rockhole, Gibson Desert (see map). Type locality: "West Australia"

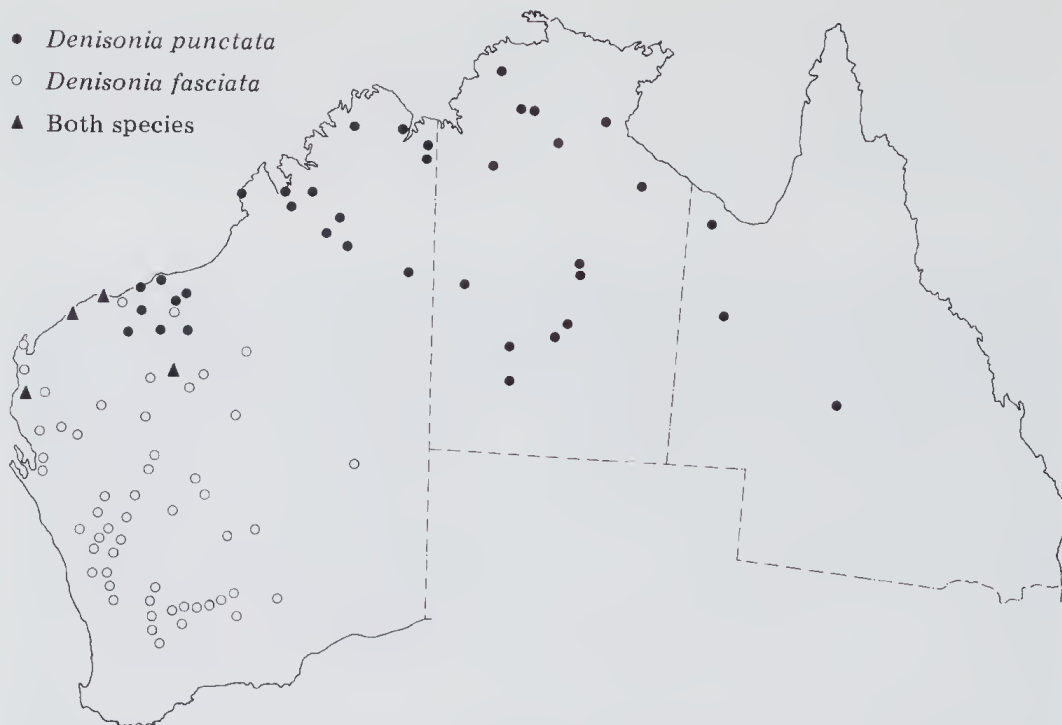


Fig. 1: Map showing location of specimens of *Denisonia punctata* and *Denisonia fasciata*.

*Material examined* (all Western Australian Museum)

Eastern Division: R40324 (Rudall River, 22°34'S, 122°13'E); R28092 (8 km N of Weld Spring), R26668 (40 km S of Wiluna); R11444 ("385 gauge via Wiluna"); R16904, R40521-22 (Kathleen Valley); R23848, R40520 (Yakabindie Stn); R48740 (Winduldarra Rockhole); R47375 (Sandstone); R1426, R22396 (Laverton); R13559, R55943 (Leonora); R5241 (Palmers Find); R10287, R5888, R23357 (Kalgoorlie); R45616 (160 km E of Kalgoorlie); R8811 (8 km E of Coolgardie); R19138 (Dedari); R6329 (13 km E of Karalee); R19880 (Yellowdine); R8952 (near Marvel Loch); R6338 (6 km E of Carrabin); R24044 (Widgiemooltha).

North-west Division: R31983 (2 km S of Whim Creek); R41568 (Roebourne); R14602 (Mardie); R538 (Marble Bar); R11493 (Learmonth District); R5042 (80 km from Learmonth); R31435 (Exmouth); R41233 (Rough Range); R13346 (Jiggalong); R28926-27, R31151 (Mount Newman); R17692 (Turee Creek Stn); R14058 (Wandagee Stn); R12281, R24164, R43457 (Mundiwindi); R22415 (32 km N of Minilya Stn); R10364-65 (Minilya Stn); R52871 (Mount Augustus); R22737 (Mulgool Stn); R36001 (Gascoyne Junction); R9299 (Ellavalla Stn); R51748 (Dairy Creek Stn); R47998 (Woodleigh Stn); R22416 (8 km N of Overlander); R42655-57 (presumably Karalundi Mission); R26792

(Meekatharra); R12292-93 (Meka Stn); R31526 (near Cue); R6458-60 (Day Dawn); R15069 (21 km W of Mt Magnet); R27373 (15 km N of Pindar); R5288, R5298 (Gullewa); R12249 (Rothsay); R15070 (24 km S of Yalgoo); R36116 (Tardie Stn); R22286 (5 km S of Thundelarra H.S.); R4760 (Gnows Nest mine, 40 km S of Yalgoo).

South-west Division: R394 (Mullewa); R20556 (32 km NE of Morowa); R9180, R8063 (Coorow); R26405, R27135, R41777 (Buntine); R43458 (Wubin); R6991 (Pithara); R42543 (Bonnie Rock); R6403 (Wongan Hills); R22426 Mukinbudin); R11754 (Merredin); R475 (Bruce Rock); R62503 (73 km S of Moorine Rocks); R52601 (8 km N of Bending).

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Dr G.M. Storr, Curator, Department of Ornithology and Herpetology, Western Australian Museum, read the manuscript.

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